

REMARKS

The present application was filed on February 6, 2004 with claims 1-24. Claims 1-7 and 9-25 are presently pending in the application. In the outstanding Office Action dated December 28, 2005, which has been made final, the Examiner has: (i) rejected claims 1-7 and 9-24 under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 4,961,821 to Drake et al. (hereinafter “Drake”); and (ii) indicated that claim 25 is allowable.

In this response, claims 1, 14, 18 and 22 have been amended. Furthermore, claim 25 has been rewritten in independent form including all of the limitations of the base claim and any intervening claims, as requested by the Examiner. Applicants traverse the §102(b) rejection for at least the reasons set forth below. Applicants respectfully request reconsideration of the present application in view of the above amendments and the following remarks.

An acknowledgment of the receipt of formal drawings filed on March 29, 2004 in the present application is respectfully requested.

Claims 1-7 and 9-24 stand rejected under §102 as being anticipated by Drake. With regard to independent claims 1, 14, 18 and 22, which are of similar scope, the Examiner contends that Drake discloses all of the elements set forth in these claims. Applicants respectfully disagree with this contention. Specifically, Applicants submit that Drake fails to teach or suggest an integrated circuit die having at least one chamfer disposed at first and second adjacent sides of the integrated circuit die, the chamfer having an upper surface which is angled relative to the first and second adjacent sides, as required by claims 1, 14, 18 and 22. In this regard, the Examiner contends that Drake discloses such an arrangement in FIG. 9D, where the Examiner analogizes groove 37 shown in FIG. 9D with the claimed chamfer. Applicants respectfully disagree with this contention. The term “chamfer” as recited in the subject claims is intended to refer to the flat surface formed by removing the corner of the integrated circuit die (see, e.g., FIG. 2 of the present application), rather to a groove as the Examiner suggests.

The Examiner, with reference to FIG. 9E of Drake, states:

As depicted on Fig. 9E above, the chamfer (37) (i.e., upper surface) the bottom groove (38) (i.e., the bottom surface) are joined (i.e., the top and bottom sides of the IC die connected through the via and detached). In addition the chamfer 37 is

angled relative to the front and the back side of the IC chip (Office Action; page 8, first paragraph).

Applicants assert, however, that the front and back sides of an IC chip are not adjacent sides, as explicitly required by the subject claims. Consequently, Drake fails to teach or suggest the arrangement set forth in claims 1, 14, 18 and 22.

Notwithstanding the above traversal, however, Applicants respectfully request entry of the above amendments to claims 1, 14, 18 and 22 in order to clarify the intended definition of the term “chamfer” recited therein. Specifically, the chamfer set forth in amended claims 1, 14, 18 and 22 has been further described as “extending from a top surface of the integrated circuit die to an intersection of first and second adjacent sides of the integrated circuit die.” The prior art of record fails to teach or suggest at least this arrangement of the integrated circuit die.

For at least the reasons set forth above, Applicants submit that claims 1, 14, 18 and 22 are believed to be patentable over the prior art. Accordingly, favorable reconsideration and allowance of these claims are respectfully solicited.

With regard to claims 2-7 and 9-13, which depend from claim 1, claims 15-17, which depend from claim 14, claims 19-21, which depend from claim 18, and claims 23 and 24, which depend from claim 22, Applicants assert that these claims are also patentable over the prior art of record by virtue of their dependency from their respective base claims, which are believed to be patentable for at least the reasons given above. Furthermore, one or more of these claims define additional patentable subject matter in their own right.

For example, claim 5, and similarly claims 16, 19 and 24, further define the angle of the upper surface of the chamfer as being “controlled, at least in part, by selectively varying one or more characteristics of the etching process.” While the Examiner contends that Drake discloses such a feature at column 4, line 49 to column 6, line 32, and in FIGS. 9A-9E and 10A-11B (Office Action; page 3, paragraph 2), Applicants respectfully disagree with this contention. As stated in Applicants’ prior response dated September 27, 2005, the only mention of any “angle” in Drake seems to appear at column 5, lines 1-6, where Drake describes the angle of the <111> plane of crystalline silicon as being 54.7 degrees relative to the <100> plane. Drake also states that “[t]he

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present invention makes use of the selection of an etchant which etches through the (100) planes much faster than the (111) planes” (Drake; column 5, lines 4-6). However, Drake fails to teach or suggest any mechanism for selectively controlling an angle of the etched surface, and more particularly fails to disclose controlling an angle of the upper surface of the chamfer by selectively varying one or more characteristics of the etching process, as required by the claims 5, 16, 19 and 24.

Likewise, claim 11, and similarly claim 21, further defines the angle of the upper surface of the chamfer as being “substantially matched to an angle of a sidewall of a die collet configurable for receiving the die.” Contrary to the Examiner’s contentions in this regard, Drake fails to teach or even remotely suggest matching the angle of the etched butt edges to the sidewall of a die collet. In fact, there is no mention in Drake of a die collet or other die handling apparatus at all.

For at least the reasons given above, Applicants submit that claims 2-7, 9-13, 15-17, 19-21, 23 and 24 are patentable over the prior art of record, not merely by virtue of their dependency from their respective base claims, but also in their own right. Accordingly, favorable reconsideration and allowance of claims 2-7, 9-13, 15-17, 19-21, 23 and 24 are respectfully requested.

In view of the foregoing, Applicants believe that pending claims 1-7 and 9-25 are in condition for allowance, and respectfully request withdrawal of the §102 rejection.

Respectfully submitted,



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